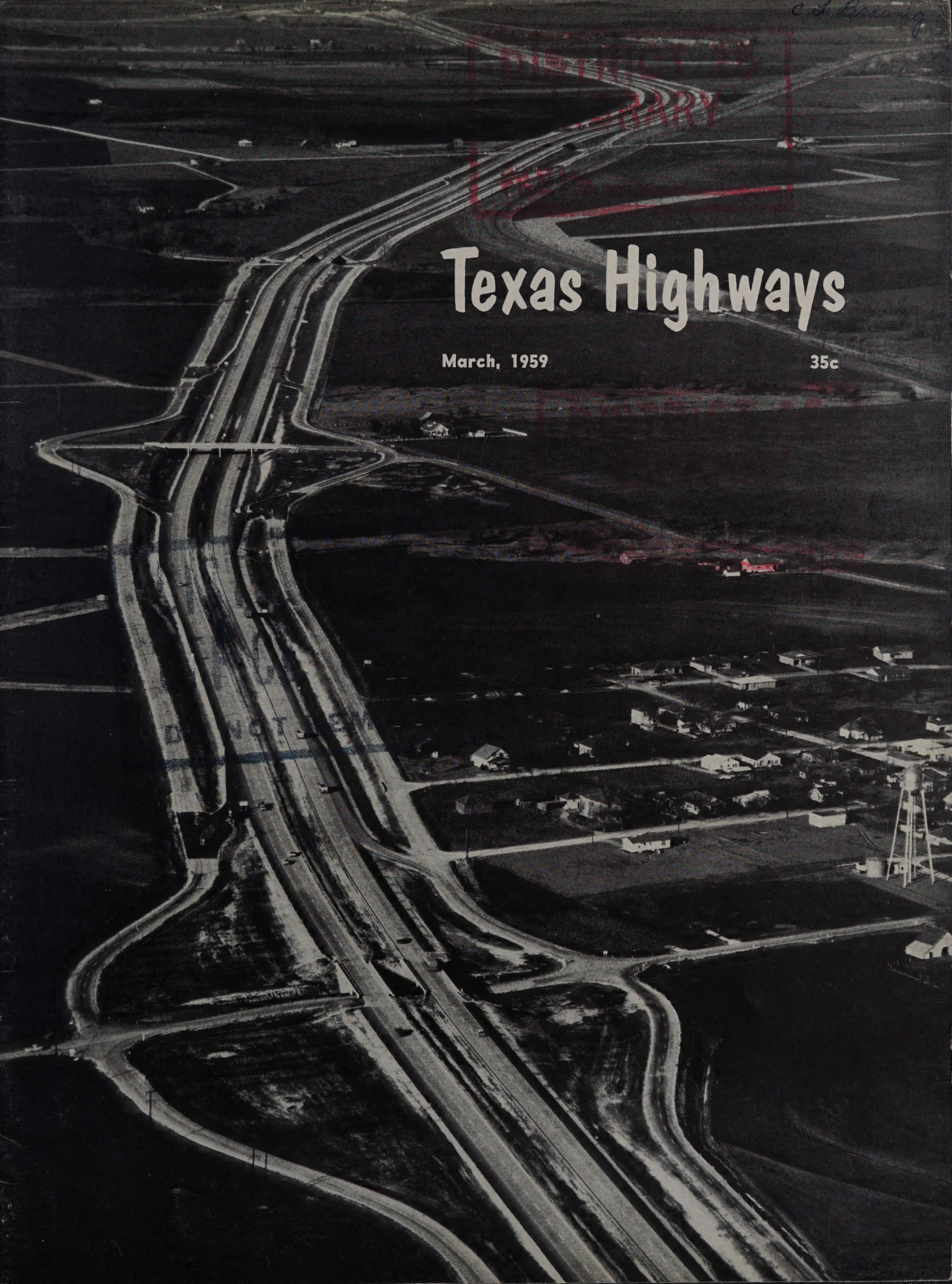

Texas Highways

March, 1959 35c

Texas Highways

Volume 6 • Number 3

March, 1959

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Rx: atomic tonic

Nella Dieter, Journalist
Information and Statistics Division

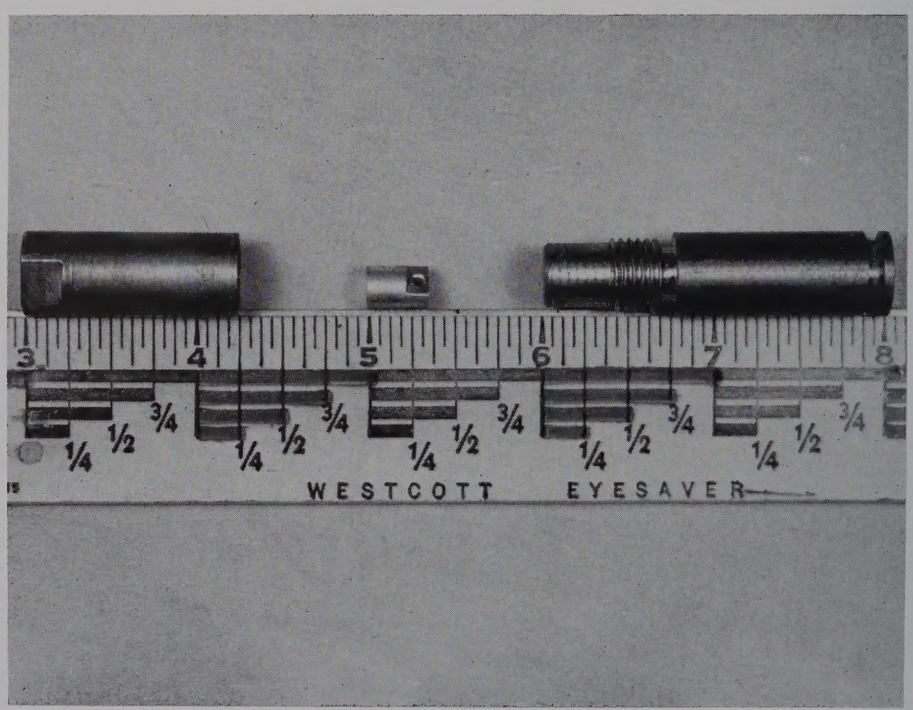
The sight of a freight truck pulling up in front of an office building, and of the driver hustling inside to deliver a bucket-like, lead object should give every appearance of a casual transaction. To the driver it probably is.

However, to certain persons inside the Materials and Tests Building of the Texas Highway Department at Camp Hubbard, this delivery has been awaited with something more than the casual anticipation attending the arrival of the usual business package. An onlooker might view the procedure to follow with the detachment he would watch a play act or a short drama, little realizing that the performance he witnesses has been polished and perfected by much rehearsal since its first staging two years ago.

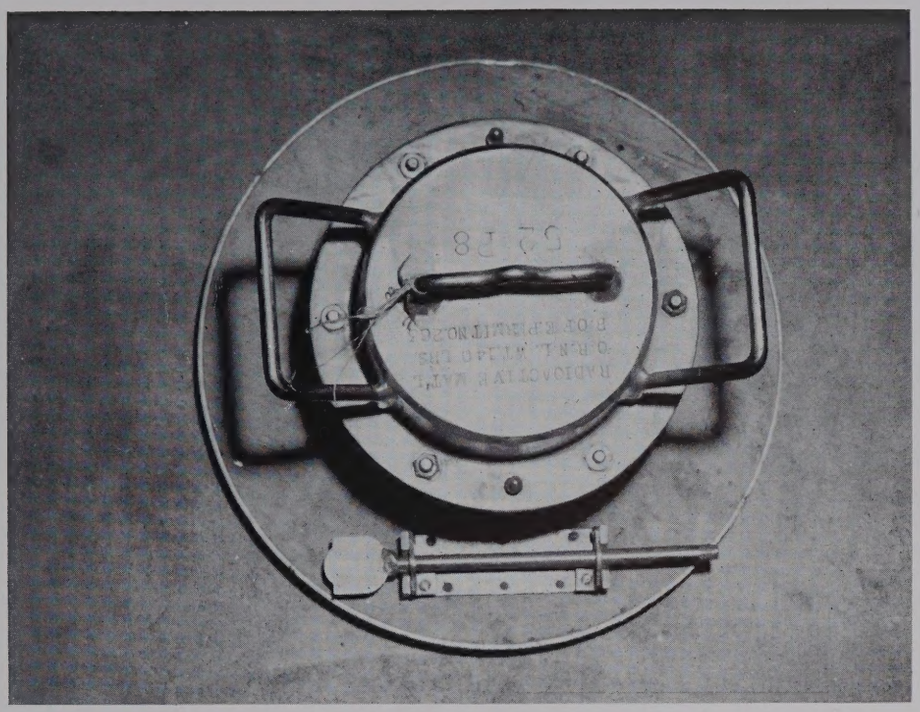
One of several available Materials and Tests personnel is cast in the lead for "Transfer of the Source," as the little drama might be titled. There is a matinee staged after the arrival of the freight truck, about once every 75 days. The setting, as one of the engineers expressed it, "is anywhere we can find the space and the privacy."

What all the quiet excitement in the Materials and Tests Building is about is the ticklish act of replacing a depleted but still harmful radioactive pellet, which the Department uses in its radioisotope projector to detect flaws in steel welds. The pellet must be removed, and in its place must be inserted a recharged and vastly more potent new arrival from the Atomic Energy Commission in Oak Ridge, Tennessee.

The 140-pound freight delivery which the expressman trundles into the Materials and Tests Building on a dolly is, for the most part, protective lead covering for a few grams of



Encased in an aluminum capsule (center) a pellet of Iridium 192, radioactive element, awaits transfer to the gamma-ray projector which the Department uses in checking steel bridge construction. This tidbit, charged up 22 to 25 curies radioactive strength at Oak Ridge, Tennessee, has a life usefulness in the projector of about 75 days. To perform in the projector the capsule must be fitted inside the cartridge of sintered tungsten (hevimet) shown here.



The encapsulated Iridium, which Materials and Tests personnel refer to as a source, arrives in this specially designed package.

"hot" cargo known as Iridium 192 secured inside.

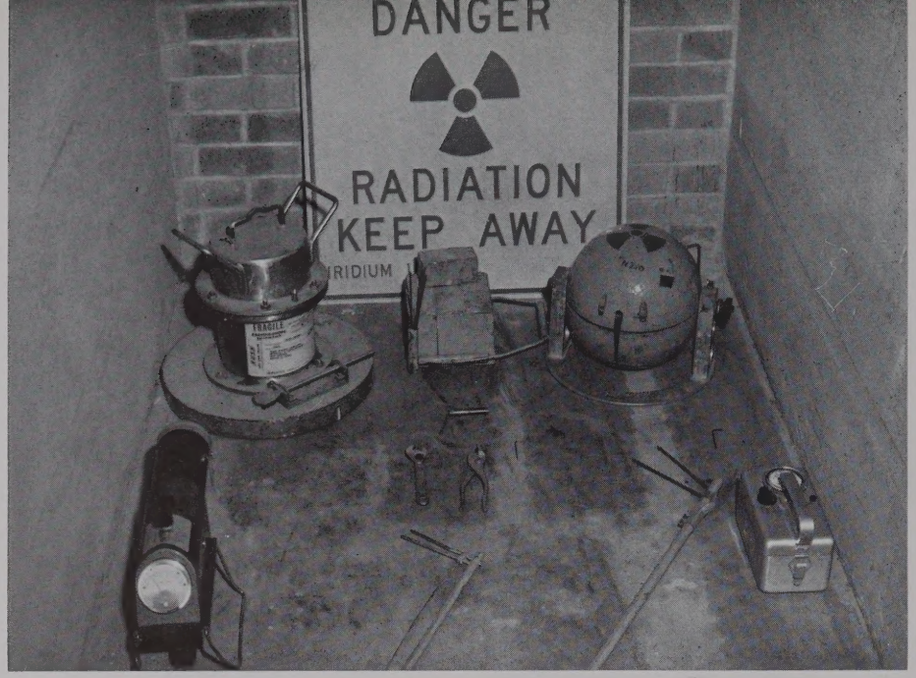
Iridium 192 gives off gamma rays in amounts of greatest usefulness for the Department's radioactive projector upon first arrival from the Oak Ridge nuclear reactor. Seventy-five days later this nugget, which is about the size of a BB for a youngster's air rifle, will be weakened to approximately one-half strength. At that time it is returned to the Atomic Energy Commission in Tennessee for another stay in the radioactive pile. At Oak Ridge, the length of time required for the tiny "source" to regain the radioactive strength the Commission has licensed the Highway Department to use (22 to 25 curies) will be the same as the number of days it took for the pellet to deteriorate. So, in order to keep its projector loaded with a potent source at all times, the Department requires three such Iridium 192 sources—one working in the projector, one receiving the "radiation treatment" at Oak Ridge, and the weakened one which is tucked away in a lead shipping container awaiting its rejuvenation trip to Tennessee. The cost to the Department for irradiation of the pellet of Iridium in Oak Ridge's radioactive pile itemizes like this: $15 for each of the first two curies, and two dollars for each curie thereafter; $16 for handling, $125 for deposit on the lead shipping container. Express charges also are added.

Albert H. Pollard, Supervising Field Engineer for Materials and Tests Division, has been named licensee by the Atomic Energy Commission, to be in charge of the safe handling of the radioactive source. Pollard; Kenneth Sandberg, Field Engineer for the Division; Cecil Giblin, Chief Inspector; and Donald Wood, Radiographic Technician, are the persons who take turns at unloading and reloading the radioactive ray projector. They risk the danger which always hovers when radioactive objects and humans are in the same vicinity. Each of these men must present himself to a state-authorized physician every three months for a thorough physical examination.

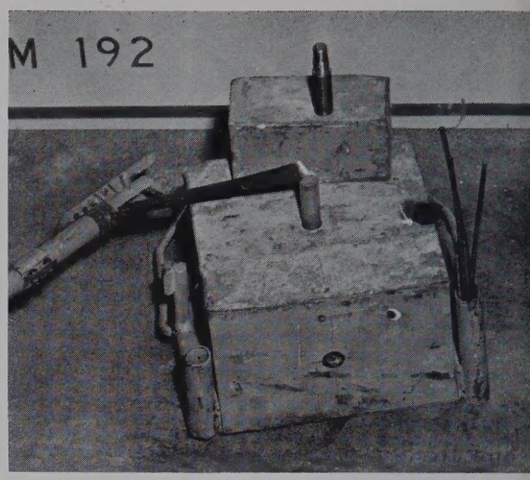
Each must keep a close record of his exposure to the gamma rays. This written account is checked, without advance notice of his arrival, by a government inspector from AEC regional headquarters in Albuquerque, New Mexico. Any time spent in the vicinity of the projector is considered exposure time. For, as Engineer Sandberg explained, some gamma rays continually escape the lead armor of the projector, and a certain amount make their way through the lead shipping container. In the brief moments during which the pellet is exposed—when it is lifted to and from the projector and shipping container—gamma rays romp in abundant strength and number, making contact with the handlers.

Usually the delivery man knocks on

A tired, but still harmfully radioactive nugget which has lost its effectiveness in the radioisotope projector, has been removed from the projector with extreme caution. Already fitted into the lead shipping container kept on hand, it will await a trip via express back to the radioactive pile at Oak Ridge, Tennessee. In this picture Albert H. Pollard, Supervising Field Engineer, caches it in the "well" at the Materials and Tests Building in Austin. Density of the concrete floor and of the heavy cover which seals the pit will absorb gamma rays in safety.



A tong's length away from the nugget of Iridium 192 (in shipping container at left) one of the authorized men will accomplish the trick of loading the projector (right). The idea is to lift a new source of Iridium from the sealed shipping container, insert it in the cartridge (shown here at center between pliers and transfer case). Thence, the enclosed pellet will be placed in the projector. When the Iridium is lifted from the shipping container, the intensity of the radiation increases greatly. A survey meter (left foreground) registers the rate of radiation exposure. Tongs and transfer case were devised by the men who do this job.



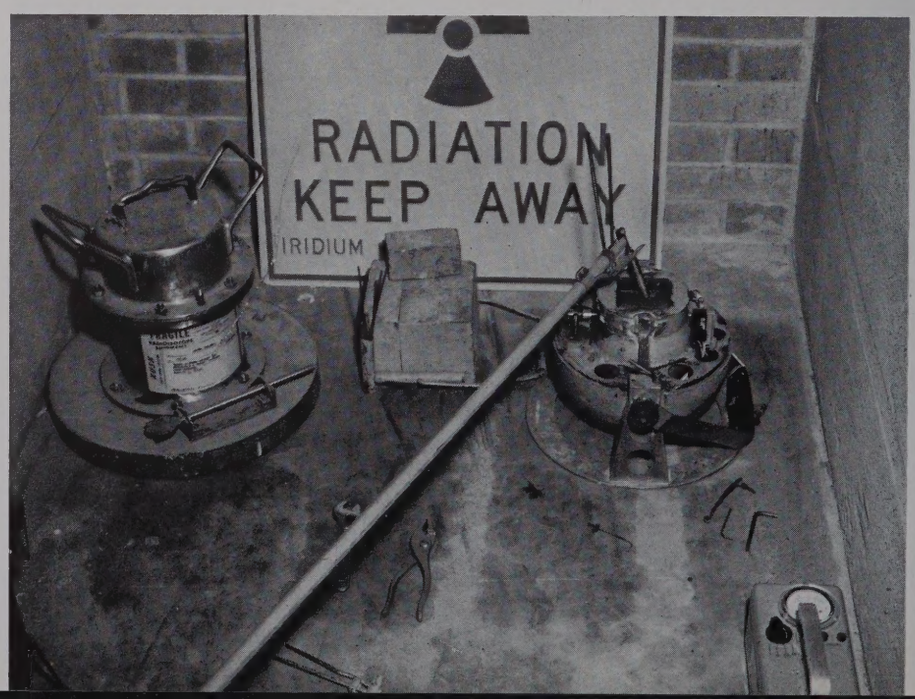
This required much practice with dummy props in the early days of the gamma-ray projector. Now the new source of Iridium (shiny capsule visible) is deftly dropped by tongs into a plastic funnel which fits on top of the lower half of a hevimet cartridge. This is accomplished while the lower half of the cartridge is held steady in the lead transfer case.

the door of Materials and Tests Division with the freshly irradiated source from Oak Ridge when the projector containing the "tired" source is working at some outpost project or in one of the steel fabrication shops. Then, for a time, the source must await the return of the Mobile Laboratory. The Iridium in the sealed shipping container is lowered into a storage pit sunk in the floor of the Division Building. A thick concrete cover seals this underfloor storage place, assuring safety against any gamma-ray leakage through the shipping container.

There are three ways in which these men of the Materials and Tests Division measure the amount of their exposure to gamma rays. These three methods are used to detect immediate, daily, and accumulative exposure. From such detectors the men obtain the information they write on the exposure records required by the Atomic Energy Commission.

An instrument known as a Survey Meter is the most immediate check. On its gauge it registers the roentgens or milliroentgens of gamma-ray exposure the surrounding area of the detector is receiving. Another aid, a "Pocket Dosimeter," is used to determine the exposure absorbed during a particular day. It is a pencil-like instrument equipped with a pocket clip to be worn by the user. "We 'zero' the

Top half of the hevimet cartridge is screwed to the bottom portion with pliers. At this point in the transfer, though the handler is in close proximity to the radioactive pellet, his risk of radiation is very limited because of the protection afforded by the dense lead transfer case in which the cartridge is fitted. Hevimet is an even more effective shield. With an angled wire, fitted through the lead case, the handler is holding the cartridge steady for the task. »



The loaded cartridge is lifted out of the transfer case with tongs. And, as a result of practice in perfecting this long-range handling, the cartridge is fitted smoothly into the projector, to serve for approximately 75 days.

Dosimeter at the beginning of the day, and after we've finished work, we record its reading," Sandberg said.

The third check on exposure is a film badge clipped onto the wearer's clothing. This badge contains X-ray film which is partially shielded with lead. Gamma rays expose the unshielded portion of the film, causing a degree of contrast. Once a month these film badges are mailed to a processing and evaluation center, of which there are a number throughout the nation. The amount of exposure of each man is reported to the Highway Department and is then entered on the Materials and Tests Division's permanent records.

Even though the possibility of overexposure to gamma rays by anyone in the Department is considered very unlikely, inspection of exposure records of the men who work with the projector is one of the conditions prescribed by the federal government for those who use radioactive materials.

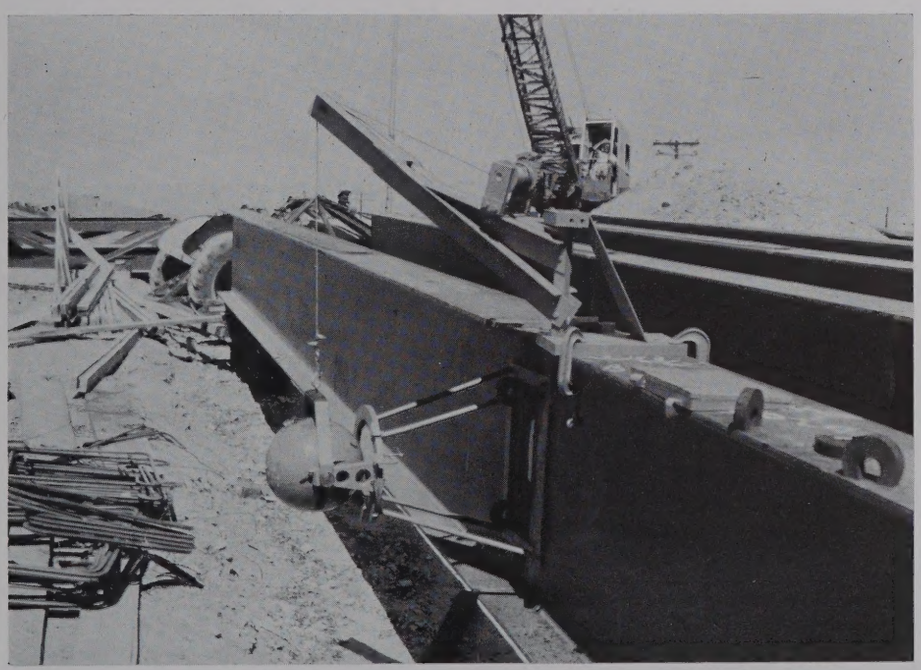
The effect of gamma rays on the human body is cumulative, Sandberg explained. He said additional exposures add to the total a person may have picked up before. While there is much science has not determined about the gamma ray, certain limits have been established as the maximum amounts of the rays which can be absorbed without excessive harmful effect to the body.

Mathematically, gamma-ray intensity is measured in roentgens. The Atomic Energy Commission states that an absorption tolerance of 300 milliroentgens per week for continuous operation is the maximum for the human body. During a week spent in continuous contact with the Highway Department's radioisotope projector, only twenty or thirty milliroentgens will be absorbed. (A milliroentgen is 1/1000 of a roentgen.) The lethal exposure amount has been set at 600 roentgens, with possible death in the second week after exposure. If 50 roentgens of the gamma ray are absorbed in a single encounter, blood-cell changes will occur. Donald Wood, who is in the company of the remarkable projector week in and week out while he beats a trail to the bridge jobs which need it, receives only 20 to 30 milliroentgens exposure a week.

Pollard summed up the rules of conduct which he and the others observe in dealing with the change of the source to the projector. The change must be effected with the necessary absorbent shielding at a practical remote working distance with a minimum lapse of time, he said. "Without any shielding except air, the distance at which the radiation is six milliroentgens per hour (the safety tolerance prescribed) is approximately 140 feet for a source of 20 curies strength. Our method of change —trained personnel, using tongs for handling and lead blocks for a shield —can be accomplished in a few seconds. The radiation absorbed by the body with this method has been diminished to a very small proportion of the maximum prescribed tolerance," Pollard said.

Now in its third year, the projector has become such a necessity it is on duty every day. Bridge engineers call on Materials and Tests Division to send it to the actual bridge site when the time is most opportune. It will send gamma rays through the beam or girder and will show on commercial X-ray film any cracks, slag, unfused areas, holes, and foreign matter. The resulting shadowgraph, interpreted properly, will reveal location, size, and nature of the defects. Actually, the atomic projector sees beneath the skin of steel and concrete objects as does the X-ray used by a physician to find weaknesses beneath the surface skin of humans.

And so ends this phase of the story of a by-product of atomic fission, adding to the examples of the usefulness to man of a power feared mainly for its destructive potential. Like fire, electricity, and other sources of power, the awesome aspect of atomic energy often overshadows the true contribution it is making in man's quest for knowledge and advancement.



On the job the projector—which weighs about 45 pounds—is operated from a remote control box through which the operator may open the projector and set the timer to give desired film exposure. Controls also automatically close the projector so the operator can approach it with no radiation danger. Outer shell of the projector is fiber glass. The Iridium 192 is attached to a rotating segment of an inner lead ball about five and one-half inches in diameter. This segment is rotated to bring the Iridium to the surface when the operator is ready to direct gamma rays against unexposed film placed on the opposite side of a steel weld. The resulting shadowgraph will reveal welding defects, if any.

Visits Texas

British Highway Official

The Texas Highway Department received a visit last month by one of England's top road men, Commander Christopher Powell, R.N. (Ret.). As the guest of State Highway Engineer D. C. Greer, Powell made a first-hand observation of the modern freeways in the expanding Texas Highway System. Powell, who is the Parliamentary Advisor with the British Road Federation, was met in Houston by Greer. The two left by automobile for the drive back to Austin.

Even though the legislative actions of this country, when put into print, may appear involved and difficult to understand by the inexperienced reader, Powell offered an example of British legislation which may steal this country's thunder when it comes to lengthy syntax. The following is an excerpt from a British highway act, "Special Road Schemes":

Appendix VIII

.Special Road Schemes

The Medway Towns By-Pass Special Road Scheme

From a point on the London-Canterbury-Dover Trunk Road (A2) at Cobham in the County of Kent, approximately 300 yards west of its junction with Crutches Lane in a general south-easterly direction passing to the south of Strood, Rochester, Chatham and Gillingham; thence in a north-easterly direction passing to the south of Rainham and Hartlip; thence in a south-easterly direction passing to the south of Sittingbourne; thence in a general easterly direction passing to the south of Faversham; thence in a northerly direction to a point on the Kent coastal road (A299) approximately 170 yards north-east of its junction with the said Trunk Road, for the exclusive use of motor vehicles of Classes I and II as set out in the Second Schedule to the Act, except on those parts of the section of the special road between Cuxton Road (A228) and Wouldham Road where footpaths are to be provided for the use of Class VI, insofar as all forms of baby carriage are comprised, therein, VIII, insofar as dogs are comprised therein, and IX; and separate tracks are to be provided for the use of Class VII. The Scheme also provides for the construction, as part of the special road, of a bridge carrying it over the navigable waters of the River Medway, and for the construction as part of the special road other roads as a means of giving entry to and exit from the special road.

Discussing during dinner the day's trip over Texas highways, Commander Powell (second from left) talks with Callum Graham, Executive Vice President, Texas Good Roads Association (left); Vernon A. McGee, Director, Legislative Budget Board (second from right); and D. C. Greer, State Highway Engineer.

TIRE RECAPPING PROGRAM

The Districts are trying on a new attitude about an old trick of the tire trade, and in one year they have collectively knocked $100,000 off their estimate of funds needed in 1959 for keeping the truck and grader fleet of the Texas Highway Department properly shod.

This growing success with a practice which received a black eye when it was a necessity during World War II days is a first dramatic result in the selling and re-education crusade being staged in all the Districts by Equipment and Procurement Division. "Preventive Maintenance," D-4 calls this general program it is pushing in the name of economy and conservation in the field, the warehouse, and the repair shop.

Recapping of truck and grader tires —one phase of Preventive Maintenance—has begun to "sell" in the Districts to such an extent that the results have brought from John Nations, Director of Equipment and Procurement Division, the prideful observation that "where tires are concerned, the Preventive Maintenance program is running nearly two years ahead of expectations." In November Nations dispatched word to the Districts that "our recapping for the past eight months has more than doubled over the combined sixteen months previous total."

During World War II, tire recapping became associated in the public mind with unscrupulous operators and unfit and broken old tires repaired with reclaimed rubber or shoddy retread materials. However, the wand of scientific research has brushed away recapping's dark brown reputation. New and more efficient equipment, better compounding of both natural crude and synthetic tread materials, and stronger rayon and nylon cord bodies have combined to give the recapping shop a position of shining respectability.

The story of recapping as it affects the Texas Highway Department is even now being written by the Districts. The bright finish to the first chapter, written in 1958, is itself a prediction that those Districts which have been hesitant to venture a change to any great extent will warm up to recapping for the sake of their budgets. Those savings look too good to miss.

Before beginning to crusade actively among the Districts, Equipment and Procurement Division took a long, thoughtful look at the solution private management was applying to the expensive problem of worn-out rubber. The Division learned that in order to hold tire costs in check, businesses with fleets of comparable size were turning almost unanimously to rigid preventive maintenance programs which were resulting in lower tire costs per mile. Tire expenses were one leak in the dike which contractors, public transportation systems, and local and long-distance haulers of milk, food, and parcels were doing something about. "Without a preventive maintenance program," some reported flatly, "we would be forced out of business entirely." Furthermore, some said that by switching to the now-reliable practice of recapping, their tire bills were reduced from 25 to 40 per cent.

Owner of an all-time high of nearly 11,000 pieces of major equipment, the Texas Highway Department can inventory its tires at over 50,000. If tire requirements of minor equipment such as trailers, compressors, paint

Lontie Hinkson, Senior Equipment Supervisor, Paris District, checks tread depth of grader tires for proper mating. On the pulling or drive wheels, all these tires operate off the same drive gears or sprocket. Any inequality in tread depths will result in the better tread carrying most of the load and wearing out before its time.

Uniform, even wear results when duals are properly matched throughout the life of their treads. Here, Hinkson determines this set of tires has 2,000 miles of wear left before reaching the two thirty-seconds marks on the tread depth gauge.

stripers, and road rollers also are reckoned, a total of 75,000 tires is tabulated. The law of averages, based on tire replacement needs of recent years, has taught Equipment and Procurement Division to expect that ten to fifteen thousand tires will come up for replacement each year.

Previously, the majority of the ailing tires were discarded and new ones substituted. But, with the average new tire costing the state nearly $50, such replacement tires were sopping up almost $500,000 from the Highway Department's annual maintenance budget by the end of 1956. "Why not try the route which inquiry had uncovered and make recapping rather than new rubber the rule of thumb, where this economy would involve no safety risk?" asked D-4. Simple mathematics revealed that increasing new tire costs for graders and trucks in the Depart-

George M. Seelke, Equipment Supervisor for the Houston District, determines how much wear remains for the tire before recapping time. When the tread depth gauge says no more than two thirty-seconds of the original tread is left, the tire will be hustled away for processing.

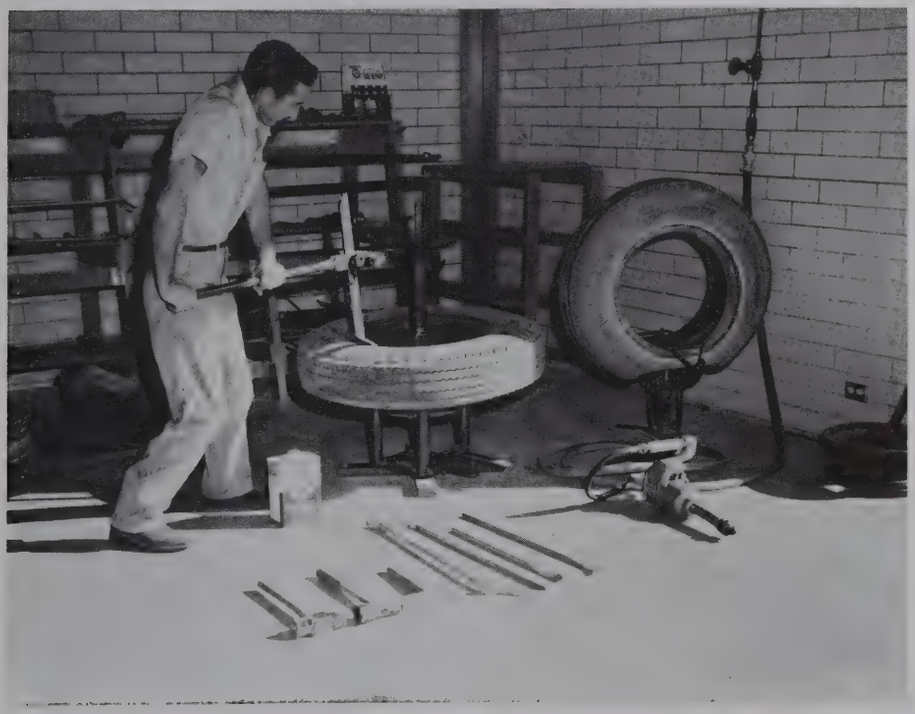
ment demanded some kind of economy measure. The average recap for a worn truck tire would cost $20, a phenomenal saving of 60 per cent when considered against the $50 outlay needed for a new replacement. Extended, this meant that for every $2,000 the Department spent on recapping, it would be cutting $5,000 off its new-tire expenditures and could chalk up a savings of $3,000.

John Nations knew the recap plan would make definite inroads on the Departmental tire budget if the Districts but gave it a trial. He also knew that so ordinary a method as the usual assortment of form letters and administrative circulars alone would not awaken the volume of active response needed. So he decided that communications on paper should be combined with a more direct selling approach. A traveling ambassador to the Districts, sent in the interest of preventive maintenance of tires, was added to the Austin D-4 staff in the person of Jim Spires, former owner of a large tire and recapping plant and well known throughout the state as an authority on the subject.

Spires tackled the selling task ahead by first writing recappers in each of the Districts, asking a quotation on Departmental tire repairs. Among the questions he asked were descriptions of the shop's recapping equipment and what discount the shop would allow for Highway Department business. Not all recappers answered. But on a basis of 120 replies, Spires made himself an inspection list. Thus, when he set out, his first job upon arrival in a District was to visit those shops which had answered his letter. By the time he was in a District Office making the acquaintance of Department personnel who had the say-so about what the tractor and truck wheels would wear, he had determined which recap dealer in the area had the most satisfactory facilities closest to the District warehouses.

Thus equipped, he would begin his sales talk to the district engineer, the maintenance foreman, equipment supervisors, and others. The use of re-

These 750 x 20 nondirectional tread tires which outfit an A. C. Maintainer, Model D in Hempstead, were recapped in San Antonio at a plant especially equipped to process tires of this type. Ed Marchman, District 12 Senior Maintenance Foreman, inspects the recently returned tires.



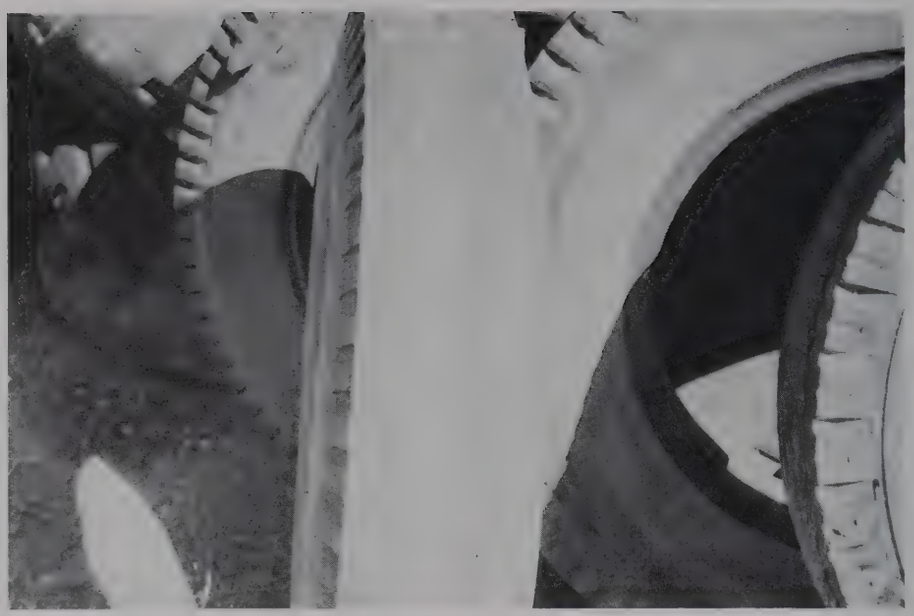
Leon Beal, Service Station Manager in the new shops of the Brownwood District, comes down on a truck-tire changer as he demonstrates the timesaving efficiency of proper hand tools and tire service equipment. At the right a tire has been mounted for inspection on a small hydraulic tire spreader. In the foreground is a collection of tire irons and hammers, bead lubricant, and impact wrench.

A rebate amounting to about $40 will be credited the Houston District on this tire which will be sent back to the dealer for adjustment. Tread separation on the tire resulted in its developing a large knot on the shoulder. Finally, a blowout occurred close to the bead. Kenneth Lamb, Houston District Operator, exhibits the casualty.

caps, Spires told them, would lighten the heavy budget allowance required for new tires, setting free those savings for use in other ways—new equipment, needed construction, additional personnel. Not unlike the individual members of a large family, each District had its own list of ways to make use of any funds saved, and this practical approach made great appeal.

D-4 knew that one of the reasons tire upkeep in many of the Districts was almost totally a matter of new replacements was due to that bugaboo known as "down time." Idle personnel and delay on the job are the costly results when a truck or tractor is ailing, whether the trouble is internal or whether the machine is caught with its tires down. When tires were the reason, the quickest way the Districts knew to get the vehicle back in circulation—and usually the ounce of prevention taken when treads were wearing thin—was to outfit it with new tires. If the recapping program once got under way, and a District owned a recap-tire wardrobe for replacement of casualties and weaklings, D-4 told them, down time would certainly not be increased because of the change.

In his visits to all of the Districts, Jim Spires informed equipment men that when the original tread was worn down, there still remained in the cord body 70 per cent of the total cost of the tire. "In other words," he said, "only 30 per cent of the investment is represented in the tread." Because a nylon-cord body will take two or more successful recaps, Equipment and Procurement Division has secured approval from the State Board of Control for the Highway Department to specify, where available, all-nylon-cord body construction, not only on all contract replacement tires but on tires which outfit new major equipment. With the average truck requiring two tires for replacement each year and that truck coming up for trade after about five years, it was conceivable that at no time other than the beginning of its career with the Department would the truck be wearing all-new tires.



D-4 has been urging that tires be recapped in time, which is before the carcass or cord body has been reached. No district wants to claim this tire, which was run too far after mechanical misalignment caused premature and exceedingly fast wear on the tread. Had the tire been pulled in time, the cord body might have been recapped.

How not to match dual truck tires. In the Houston District this pair was mounted for a pictorial example of what happens when tires are mated this way. Here a length of 2-by-4 timber is used as a straightedge to show that the outside dual carries all the load and will wear out or blow out twice as fast.

Of course, in some ten or twelve districts D-4 found recapping programs already under way in varying degrees. Research among recapping establishments, however, had uncovered a great variance in the discount rates off list price quoted on Highway Department work. They differed as much as 20 per cent in some cases. By year's end, through efforts of D-4, recapper's discounts had been raised from an average of 30 per cent to 50 per cent, enabling some of the Districts already recapping to increase their savings.

Another accomplishment during

the year in favor of District tire budgets came from adjustment rebate credits. More than $10,000 in such returns came home to roost in the proper districts after D-4 secured warranty commitments from all manufacturers on tires which fail prematurely because of manufacturing defects. Some makers had previously denied the State a guarantee against such defects, because the tires were bought at a discount. The current policy required by the State of all manufacturers is an adjustment commitment on original equipment tires as well as on all contract replacement tires.

During the year 1958 every one of the 25 Highway Department Districts had either organized a tire-recapping program or had improved on the program already existing. District 1 in Paris, with a recap volume of $20,-015.21 last year, topped the list, as it had done in 1957. Among the first ten there were five newcomers: Waco, Brownwood, Childress, Houston, and Abilene. This, Nations explained, did not necessarily reflect on the districts they replaced. "Rather, it's simply a matter of some of the districts who have just started recapping having much more material to work on," he commented. Paris, Tyler, Amarillo, Yoakum, and Lufkin all were repeaters, ranking among the top ten since 1957. Sound tire-conservation practices are the clue to their keeping ranking positions, the Equipment and Procurement chief said. "The coming year should show a real test of strength, because most districts now have good rubber on the ground, and all will start on a more or less equal basis," Nations predicted.

All the tires on this motor grader in the Brownwood District have been recapped. Luke McHan, Senior Equipment Supervisor, reported that from $35 to $50 is saved on each large truck and grader tire recapped by District 23.

Ready for the recapper is this covey of truck tires from the Houston District. Bill Hunter, Senior Equipment Supervisor, and George Seelke, Equipment Inspector, have pulled, inspected, and checked out the order. These tires are all about 90 per cent worn. The tread-depth gauge shows that not more than two thirty-seconds of the original tread is left, yet none of the tires are worn down to the cord body.

Recapping, which is only one part of the Tire Preventive Maintenance Program, has now been made a family affair in the Department. That hurdle jumped, D-4 now will take to the Districts that certain amount of re-education necessary with regard to recaps. "Our only means of recovering 70 per cent of our tire dollar is to recap in time," the word goes.

Last year, a year of persuasion, the sales motto to the Districts from Austin was, "Recap." This year the family will be urged by D-4 to keep close watch on a troupe of thrift practices which can join with the practice of recapping to make an even greater chapter in the tire-budget story. Preventive maintenance catch phrases around the shops in '59 will be centered around tire loads and inflation, proper rotation and dual-matching of tires and wheel balancing and alignment. Money savers all!

Hank and Green Retire

Last January, two long-time Department employees, Russell J. Hank and John L. Green, put on their top coats, boarded the elevator to the first floor in the Main Office, walked out the front door and down the steps. These two daily rituals, performed as they had been thousands of times before, brought to a close more than 60 combined years of dedicated service to the Texas Highway Department.

Russell J. Hank retired January 31 after 35 years with the Department. Since he began his career back in 1919 as a draftsman, Hank served in many capacities, including Superintendent of Aid Projects, Engineer of Materials and Tests, Assistant State Highway Engineer, and Acting State Highway Engineer.

Attorney John L. Green, Director of the Claims Division, entered the service of the Highway Department as Assistant Legal Investigator in 1933. Green's retirement became effective January 9. His work with the Department has been in a highly specialized field of law, handling claims for and against the Highway Department. Lawsuits concerning the Department, with the exception of right of way cases, are also handled by the Claims Division.

John H. Crook, a graduate of The University of Texas School of Law, has assumed the duties of Director of the Claims Division. Crook served in the Marine Corps for four years, and for the past two years has been Assistant Director of the Claims Division.

R. J. Hank

J. L. Green

What Is It?

TEXAS HIGHWAYS staff photographer Douglas Fairchild, in his Departmental roamings about the state, came upon this interesting scene. The original photograph has been processed to result in a silhouette to keep you guessing. What do *you* think it is —possibly a monument to some unsung hero about to go into the battle at Belleau Wood, or a National Guarder standing watch? Next month we'll tell you, but in the meantime—what is it?

Certificate of Title

Bart Couch, Chief of Titles
Motor Vehicle Division

That small piece of paper you received when you bought your last car is perhaps one of your most important records—the Certificate of Title to your automobile. The Motor Vehicle Division of the Texas Highway Department is charged with the responsibility of recording the history of every motor vehicle in the State of Texas. The Certificate of Title section examines, files, and issues over 200,000 titles per month, an operation requiring 120 employees. Bart Couch, Chief of Titles, in an effort to acquaint TEXAS HIGHWAYS readers with this highly important watch-dog job, shows you the Certificate of Title process, along with some valuable tips on protecting your interests in your own automobile now and when you trade it.

Today when the average person buys a car it is one of the most expensive investments he will make outside of his home. To make sure of what he is buying, he should check the description of the car against the description as shown on the evidence of ownership.

Texas requires that the evidence of ownership be a certificate of title or current license receipt from a non-title state on a used car, and a manufacturer's statement of origin on a new car. The description is the make, year model, body style, and the motor or serial number. The serial number is called the permanent identification number on late-model cars and it is the most important item to be closely checked. If there is any doubt as to the evidence of ownership or the description, the Motor Vehicle Division Information Center in Austin may be contacted for a verification of its records.

Whether the car is bought from an individual or a dealer, the evidence must be properly assigned to the buyer, leaving no blank spaces in the assignments. The seller as well as the buyer is subject to a maximum fine of $200 if any spaces are left blank. The evidence and the current license receipt should be given to the buyer, who must file his application for title with his county tax collector within ten days or be assessed a $5 fine.

Since about 90 per cent of all cars are sold by dealers and about 60 per cent financed, the filing of the application in the buyer's name is handled for the buyer's convenience and the lien holder's protection by the dealer or financing institution. The buyer is asked to sign the application, sales-tax form, and, in the case of financing, a chattel mortgage. These documents should never be signed in blank, but should be completely filled out and checked for accuracy and legibility before signing. The application and the sales-tax form should be signed and sworn to before a notary public, who must take the acknowledgement in the buyer's presence. These steps are insurance against fraud and excessive, hidden charges for the buyer. The buyer is responsible for the payment of the title-application fee of 75 cents, transfer of registration at 50 cents per transfer, the sales tax of 1.1 per cent of the total consideration, and, if a new car, the license fee. Since the dealer or financing institution will do the filing, the fees and tax should be given to them and a proper receipt requested.

Including the Active Title Record File, shown here, and the microfilm library, the Certificate of Title Section maintains over 150 million pieces of evidence covering all vehicles titled after 1939. Maintaining these files in a current condition are (left to right) File Clerks Harve Gresham, Mary Beth Barringer, La Verne Spain, Betty Seymour, and Jeannie Falcone.

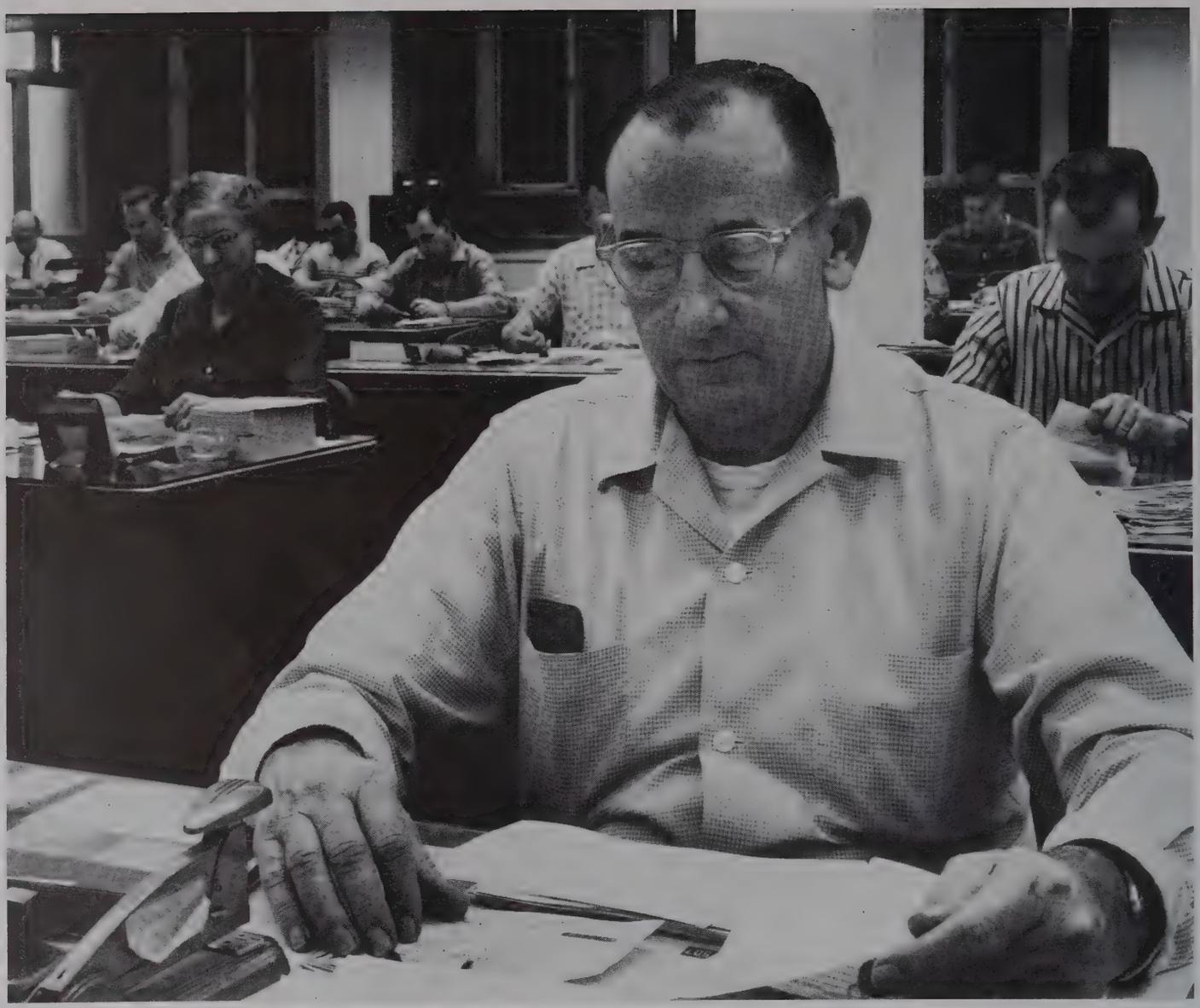
If the sale is for cash and the buyer desires to file his own application with the tax collector, he is legally obligated to demand the properly assigned evidence, the current license receipt on a used car and the sales-tax form from the seller. The seller is legally obligated to furnish the buyer with these documents.

The tax collector or his deputy, upon examination and approval of the application and all its supporting evidence, will issue a receipt for the title application and sales tax. He will also transfer the registration of a used car from the original owner through the dealer, if any, and into the name of the buyer. There are two copies of the receipt for the title application and sales tax. One goes to the lien holder and the other to the registered owner. These receipts are good only until the title is issued. The transfer-license receipt in the buyer's name should be kept by the buyer until the car is sold or for the renewal of registration.

The tax collector makes a daily report by mail to the Motor Vehicle Division in Austin. This report consists of a list of the receipts issued in numerical order, the title transactions in numerical order according to the copy of the receipt attached to each, and a check for the State's portion of the title-application receipt fees.

When the title report is received, an accounting is made of all receipts issued and fees collected, and the receipts are pulled off the transactions. These reports are machine tabulated by county and date as a record that is convenient and used as a quick reference. The transactions are then broken down according to make and type of evidence before they are sent to the File Section to be checked against the Active Title Record File.

The Active Title Record File, consisting of about six million cards, is set up by make and the last five digits of the motor or permanent identification number. The next breakdown is by the motor or permanent identification number in which there are five separate steps. After this breakdown the file is checked and the active title record card is clipped to the face of the transaction and sent to the Title Examining Section. The title transaction on a new car is not checked



Of almost 8,000 title applications submitted each day, Bruce Gardner, Title Specialist, and other members of the Title examining Section scan each application and supporting document to see that they conform to the Texas Certificate of Title Laws and regulations.

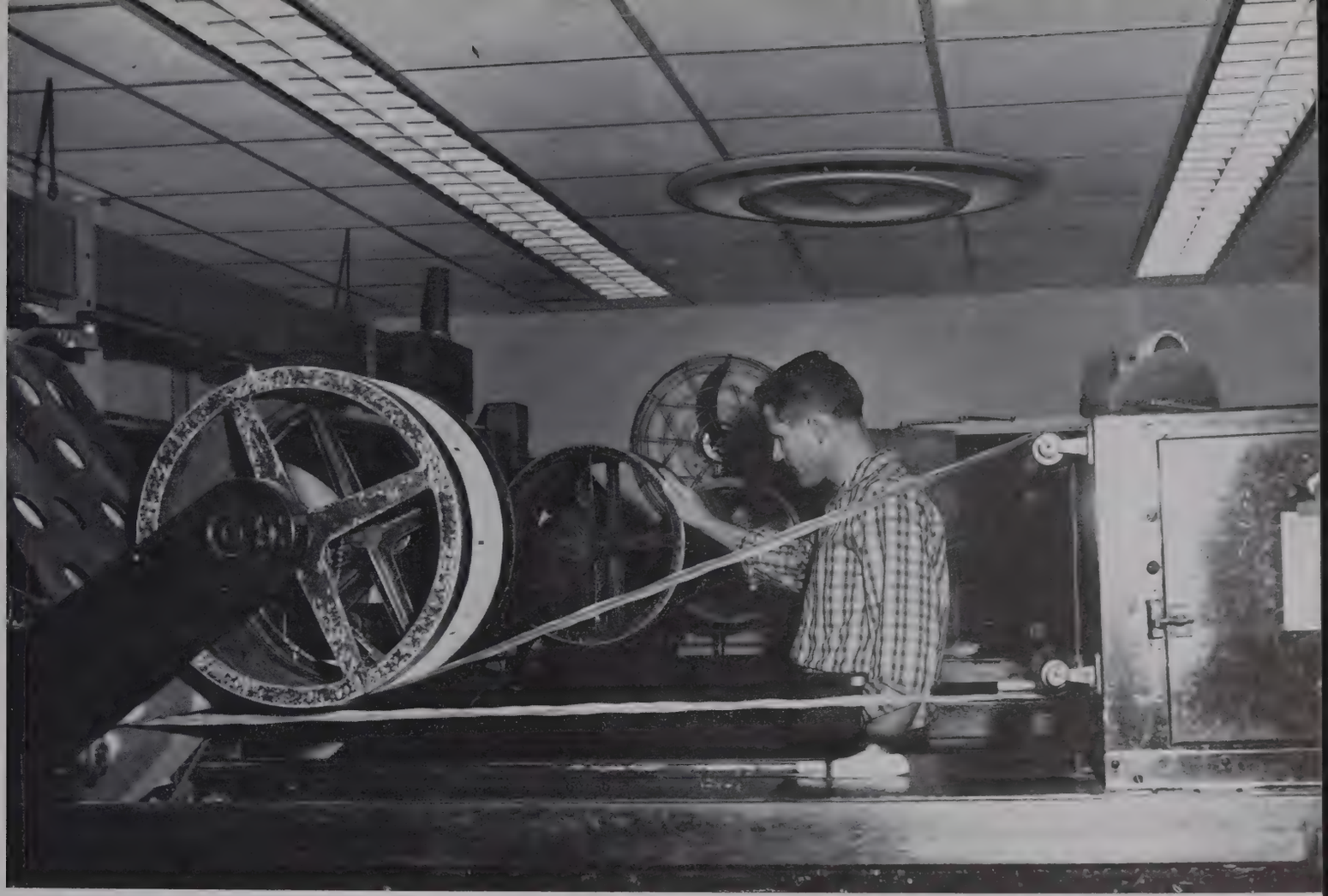
against the files in most cases. A card is typed showing the make and permanent identification number and clipped to the face of the new car transaction.

This check against the Active Title Record Files will often reveal a condition which necessitates special handling of the transaction. The two most common conditions are the notice that the vehicle has been stolen and that the title to the vehicle has been suspended under the Texas Safety Responsibility Law.

The Examining Section has 28 examiners, each examining an average of about 320 title transactions a day per year. Each title transaction is taken apart and each document is individually examined. The description is checked on the application and other documents and compared with the active title record for errors. All documents are checked to determine if they conform to the Texas Certificate of Title Laws and regulations. The registration is checked to see if it is in proper order.

A title transaction, when not in proper order, is returned for correction to the county tax collector who filed it. These rejections run between 10 and 20 per cent of the total examined. Most of these rejections could have been avoided if the buyer, dealer, financing institution or tax collector's office had checked the transaction closer. After these rejections have been corrected they are returned for re-examination.

When a title transaction is approved by an examiner, he assembles the documents into three separations. He places his stamp of approval upon the face of the application and every



Marvin D. Mills, Senior Technician, (above); Carl Noack, Chief Supervisor; and Mary Blair, Operator, (below) produce the familiar certificate of title with this special photographic and printing machinery which turns out approximately one million titles every six months.

hour they are sent to the title-numbering room.

The transactions are then broken down by those that have liens and no liens according to the supporting evidence of ownership. The new title number and the date the title is to be mailed are stamped on the application, the supporting evidence and the active title record card. About 1.7 million transactions are so numbered each year. The active title record card, stamped with the new title number, is sent to the File Section to become the Inactive Title Record. This inactive card will provide a record for reference to the new title until the new active title record card is made and filed.

The supporting evidence is sent to the Microfilm Section for storage until the new title has been made. Here the application will be matched with the evidence by title number for microfilming. The application for title is sent to the photographic and printing section where a process is used to produce the certificate of title.

The application is photographed to make a negative card, which, after being developed, cut, trimmed and dated, becomes the active title record card. It is at this time that every attempt is made, through different light settings, to produce a negative that is legible. Many have to be rejected because the application is too light to photograph clearly due to light-colored ink or typewriter ribbon.

This negative card is photographed to make a semifinished title. About eight hundred titles can be made from one roll of photographic paper. After developing and cutting the titles, those that are marked "Original" have an assignment printed on the back side to make them transferable. If there is a lien on an application, two titles are made. One is transferable and marked "Original," the other is marked "Duplicate Original" and left blank on the back and is not transferable. After the finished titles are compared to make sure all originals have been issued according to title-number sequence, and those titles with liens have a duplicate original, they are sent to the mail room. The applications from which the titles were made are sent to the Microfilm Section to be matched with the supporting evidence.

Every document, front and back as needed, is microfilmed. About 3100 documents are photographed on one 100-foot roll of film. This film is processed in one day and is checked for legibility. If any one document is not legible, it is microfilmed again and spliced into the proper place. The rolls of film are filed according to the numerical sequence of the title numbers in which they were microfilmed. There are about 150 million documents on file in the Microfilm Library, the permanent record files of the Motor Vehicle Division.

All documents are destroyed after the microfilm has been checked and recorded, except for the out-of-state evidence. This out-of-state evidence is cancelled by "Surrender to Texas" and mailed to the issuing state for cancellation.

When the titles are received by the Mailing Section, they are machine-stuffed into window envelopes. The address shown on the title is the one used and if not correct, it will be returned to the Motor Vehicle Division. About 250 a day are returned because the titles could not be delivered. Originals with liens are mailed to the lien holder and all other titles are mailed to the address of the registered owner. These titles are picked up twice daily by the Post Office.

The processing time for a title transaction after it is received by the Motor Vehicle Division is about five days for a used car. It takes about three days for a new car. The closer the transaction is checked for accuracy, legibility and completeness before it is sent to the Motor Vehicle Division, the more protection the title will afford all parties and the faster it can be issued.

The title law with its procedures and regulations is designed to protect the interests of the buyer, seller, and lien holder. When each party fails to assume his legal and inherent responsibility in the proper handling and filling out of the title documents, the protection of their interest is proportionally weakened. This responsibility is not upon the Motor Vehicle Division or its designated agent, the tax collector. It is the duty of the Division and the tax collector to point out, advise, and help the parties as to how to use the proper procedures and secure proper documents. Only after such interested parties have done their part does the tax collector and the Motor Vehicle Division assume the responsibility of issuing a title.

BUYING A CAR? KEEP THIS IN MIND . . .

- *DO* make sure that all the papers required to complete the transaction have been properly filled out. *Don't* accept any document in blank.
- In purchasing a used car, *DO* insist that the transfer be shown to the dealer and from the dealer to you. *Don't* permit the dealer to skip himself in a transfer. It may become necessary later on for you to prove from whom the vehicle was purchased.
- *DO* check the motor number against the evidence presented on 1955 and earlier models. *DO* this yourself. *Don't* take the word of the dealer's employee that everything is in order. On 1956 and later models, *DO* check the identification plate located on the door facing and if the plate shows evidence of having been tampered with, don't purchase the vehicle until you find out why.
- *DO* insist upon a receipt for your application for title and do not depend on the seller telling you that it will be "taken care of."
- *DO* insist that the proper title papers be presented if purchased by draft. If there is any question as to the original owner of an automobile, the Highway Department may be contacted for a complete title history on any particular automobile titled in Texas.

FOR THE SAFETY OF ALL...

In the Texas Highway Department, safety on the job is a subject important to all employees — from the office secretary to the driver of a motor grader. As a journal of information exchange between the far-flung Districts and Divisions of the Department, TEXAS HIGHWAYS is devoted to publishing material related to the highway-building process and its allied fields. Job safety is one of these important fields. Since TEXAS HIGHWAYS feels that various segments of the Department can profit from the experience of others in on-the-job safety precautions, it would welcome articles and items concerned with this subject, together with suitable photographs. Please forward any information on safety innovations, either procedure or mechanical device, which you, our readers, feel would be of value to others. An account of your experiences in this field will be appreciated.

. . . No. 33 This Month!

Subject: Thirty-third Annual Short Course

Dates: March 10, 11, 12, 1959

Place: Texas A&M College

Hydraulic Traveler

When only four and one-half hours are required to complete a step in laying concrete bridge decking ordinarily taking more than a week—it's a good indication of improvement in procedure. On the new 8,050-foot-long bridge over the Angelina River in East Texas such an improvement has been made with a timesaving device called a hydraulic form-handler.

In October, 1957, TEXAS HIGHWAYS published an article on "The Use of Lightweight Concrete." In this article, a manually operated traveler was described which represented a major step forward in bridge-building technique. Now, the addition of hydraulics on the Angelina River project has achieved increased efficiency of traveler operation.

This hydraulically operated, track-riding mechanism moves along the bridge girders on specially laid rail tracks to carry steel forms 35 feet long directly to any section of the bridge where decking is to be laid. From that part of the traveler which rides on top of the bridge, two platforms swing together under the bridge. They are bolted end to end, forming a sturdy floor from which workmen can install the forms. When the traveler is moving along the bridge to another location, the two platforms swing outward to clear passing piers, then come together again when the traveler is in place.

Prior to their placement, forms are secured to the flooring on the platforms of the traveler. When the platforms are brought together under the bridge and fastened, each form is in proper position below the section of decking to be poured. As the traveler is raised by the hydraulic cylinders on top of the bridge, the forms rise through the beams to exact position for concrete pouring. They are then secured to the bridge and disconnected from the platforms. Pouring now begins. The traveler is lowered and moved to a previously poured section where the concrete has set. Forms for that section are removed from the bridge, attached to the traveler, and taken to another section for new pouring. This process is repeated for the entire length of the bridge.

In this manner, a complete section of bridge-decking forms can be moved and set within four and one-half hours. Using the older method of shoring and scaffolding, the required time for this operation would be more than a week, and few of the materials could be used in more than one section of decking.

The Angelina River project reroutes S. H. 147 around the McGee Bend Dam and Reservoir project. The bridge averages about 60 feet above the river bottom, increasing to 81 feet at some locations. For the Angelina River project, the cost of the entire traveler mechanism, including bridge deck forms, totaled about $40,000.

After the traveler is used in installing and removing forms, it carries workmen on the platforms to apply finishing steps such as plugging bolt holes and patching honeycomb. Scaffolding was previously required for this job, also.

Because of its flexibility, mobility, and uniformity of construction, the traveler makes possible a construction accuracy of less than one-sixteenth inch.

Another advantage of the device is that it can be dismantled and used at another location. No changes are necessary if beams are the same distance apart on a new project, or with minor alterations, the wheels can be modified to fit rails laid on beams different distances apart.

Like giant tongs, the two platform sections swing together, supporting concrete forms in correct position for installation.

The platforms are suspended under the bridge and locked together with two five-ton steamboat ratchets.

A workman raises or lowers the entire traveler mechanism by moving a lever. To his right is the control that swings the platforms outward when passing bridge piers.

Poised to lift the traveler or swing its platforms outward are two of its eight hydraulic cylinders. Rails, in foreground, will be extended as work progresses. »

Both platforms are at their outward position as the traveler moves along the 60-pound standard rails. Dual flanges for wheels allow for the inevitable irregularity in the track when laid over a rough base. The flanges pull the wheels back on the rail if they slip.

« A gasoline engine, mounted above the bridge deck and clear of the work area, supplies power for the hydraulic system. This system powers the vertical and outward movements only. Actual forward and backward movement of the traveler is manual.

Quarters are tight for this job. The platform is in this high position until bolting is completed and forms are secured. The traveler then moves to another section while concrete is poured. Workmen will later return and pick up these forms.

Platform locked and forms in place, workmen begin installation of a set of forms.

With spud wrench and wedge, workmen align and secure forms sections between bridge beams.

This man, with a partner on the other side of the traveler, inches the machine forward to another section of the bridge.

use of soil sterilants*

Grover Green, District Maintenance Engineer
L. G. Harris, General Foreman
W. B. Purcell, General Foreman
District 18

Our experience with soil sterilants in District 18 has been confined to use of Borascu and Polybor Chlorate. Borascu is a sodium borate ore of which borax is the refined product. Polybor Chlorate is a combination of sodium borates and chlorate.

We first considered the use of soil sterilants in 1954 in an effort to find some effective means of eliminating expensive and time-consuming hand labor used in cutting grass and weeds around sign posts, guard-fence posts, culvert headwalls, and other obstructions within the right of way of our highways and farm roads. That fall, after requesting and securing the concurrence of D-18, we purchased for experimental use nine tons of concentrated Borascu and used the material in all of our nine maintenance sections around sign posts, guard-fence posts, culvert headwalls, timber bridge bulkheads and wing walls, and around warehouse fences.

Our work with Borascu in 1954 was entirely experimental. We tried various rates of application attempting to determine the rate that would give maximum control with the least amount of material. It was our desire to eliminate growth of vegetation in a three-foot-diameter circular area around posts. Vegetation was cut and removed from the area to be treated and a small amount of dirt was scraped away. Borascu was distributed over the area at the desired rate and then covered with the dirt and cut grass. This treatment was made during the fall to allow winter and spring rains to dissolve the Borascu crystals.

Some of the post areas (seven square feet) were treated with one pound of Borascu and others were treated with two pounds. Records of locations of differently treated posts were kept. On areas treated with two-pound applications we obtained 100 per cent kill of vegetation; on areas treated with one-pound applications, only partial kill.

The nine tons of material purchased in 1954 cost $129.68 per ton, F.O.B. our warehouse in Dallas. The post areas treated with two-pound applications cost 27 cents per post or 3.8 cents per square foot of treated area. The cost where a one-pound application was used amounted to 20 cents per post or 2.8 cents per square foot of treated area.

We were highly pleased with the results obtained from the initial experiment since absence of vegetation immediately adjacent to posts allowed tractor-powered rotary mowers to cut practically all vegetation within the right of way. Hand cutting around obstructions was reduced to a minimum. Our high regard for the results obtained is borne out by the fact that in 1955 we purchased and used 26 tons of concentrated Borascu; in 1956, 38 tons; and in 1957, 61 tons. The material we purchased in 1957 cost $103.85 per ton—a material cost reduction of approximately .4 cent per square foot of treated area.

As a result of our 1954 experimentation wherein total kill was obtained with treatment using two pounds of Borascu for a seven-square-foot area, we standardized on that application for future initial treatments. The areas where light treatment was used in 1954 and where only partial kill of vegetation was obtained were retreated with a similar application of approximately one pound per seven square feet the following fall. It is our observation and belief that when total

*Speech presented at the Thirty-second Short Course.

kill is secured the area can be kept sterile by alternate-year treatment. Practically all areas around sign posts, guard-fence posts, mail-box posts, light standards, culvert headwalls, bridge abutments and wing walls, and in noses of islands on principal highways in District 18 are now being treated with Borascu. We believe the treatment is justified from an appearance as well as from an economic standpoint.

Borascu is nonpoisonous to animals, nonflammable, and noncorrosive to ferrous metals. It is easy to apply, but is nonselective in action and affects all types of vegetation. Since it is nonselective, care should be taken to avoid its contact with lawns, trees, shrubs, and other growing plants which should not be injured or destroyed. It is applied dry, by hand, from a bucket. We have, on several different occasions, received technical assistance and advice from representatives of the manufacturer who were quite helpful during the course of experimentation with use of Borascu.

On Central Expressway in Dallas we have asphalt-surfaced refuge shoulders back of rolled curbs. These shoulders seldom have any traffic and as a result Bermuda grass has gradually encroached into the surfacing to such an extent that some remedial measure is necessary. We contacted the manufacturer of Borascu to see if they had a material that would control the grass in these surfaced shoulders. They recommended Polybor Chlorate since it is more soluble than Borascu and can be dissolved and applied as a liquid. Material in crystalline form could not be used for this particular problem since wind and traffic would blow the material off the shoulders before the crystals could dissolve and penetrate to the roots of the grass.

We purchased five tons of Polybor Chlorate at $230 per ton, F.O.B. our warehouse in Dallas. We filled our asphalt-spray-unit tank half full of water and heated it to 150° F., started the water circulating, and added 1,200 pounds of Polybor Chlorate. After allowing the water to circulate for a while, we completed the filling of the tank and continued the circulation until the Polybor Chlorate soluble powder was completely dissolved. We then sprayed the asphalt shoulder area to be treated at a rate of approximately one gallon to 50 square feet of area. We used a hand spray because the entire shoulder width was not infested with grass, but the spray-bar method could be used if uniform widths were to be treated. At the rate of application we used, the material cost us .4 cent per square foot. This material was placed in November, 1957, and we are unable at this time to reach any conclusions as to its effectiveness. We are anxiously awaiting the growing season so we can observe the results obtained. If this experiment proves successful we have a number of miles of surfaced shoulders with grass infestation that we will wish to treat in this manner.

Inasmuch as grass and weeds growing in surfaced shoulders and in cracks and joints of paved medians present such an unsightly appearance we have plans of treating shoulders, median base, or subgrade with soil sterilant prior to placement of asphalt surface or concrete pavement to prevent growth from ever starting. It is our understanding that some districts have done some work of this nature already with good results.

To increase the safety of Central Expressway in Dallas, funds have been allocated for erection of a barrier fence down the narrow median on the five-mile section from Live Oak Street north to Loop 12. This project will include the removal of grass from the median and its replacement with a four-inch thickness of concrete. To attempt to eliminate grass growing through cracks between median concrete and curb, we propose treatment of subgrade with a highly soluble soil sterilant.

By way of summary we wish to enumerate, as we see them, the advantages and disadvantages of the type of soil sterilants which we have used.

Advantages:

1. Best results are obtained by placement of the material in the late fall and winter months, a time when our maintenance activities are at a minimum, and soil sterility obtained eliminates hand cutting of grass and weeds in summer months when the maintenance work load is at highest peak.

2. The material is safe to handle, nontoxic to animals, and methods of application used prevent damage to vegetation on adjacent property.

3. The material is noncorrosive to ferrous metals so can be used around metal sign posts and fence posts.

4. The material itself is nonflammable and highly useful in elimination of fire hazard around timber structures.

5. Neat lines can be secured by careful application and therefore a highly pleasing appearance obtained.

6. Treatment of areas around obstructions in fall and winter months allows practically all grass cutting in the right of way to be done by mechanical means.

7. Economical saving. The cost of treatment around one guard post amounts to 27 cents and the treatment is effective for about two years making the annual cost approximately 13 cents. The cost of hand cutting grass in untreated areas amounts to approximately 10 cents per post and in a normal growing season the hand-cutting operation would require a minimum of four times, making an annual cost of 40 cents per post. A resultant saving of 27 cents per post is obtained by use of soil sterilant. The large number of posts in a maintenance section makes the possible saving in labor and equipment cost appreciable.

Disadvantages:

1. The material is nonselective and care must be exercised to avoid its contact with growing plants you do not wish to injure or destroy.

2. Considerable space is required for storage until material is used.

It is our belief that the advantages far outweigh the disadvantages and we in District 18 are entirely satisfied with results secured from Borascu as a soil sterilant.

A Bottle Was Broken — A Ribbon Was Cut

Two Highway Department mileposts captured a big slice of southeast Texas headlines last month. Dual spotlights fell on the launching of the Department's new ferry, the E. H. THORNTON JR., and the opening of the Harris County section of I. H. 10 (S. H. 73).

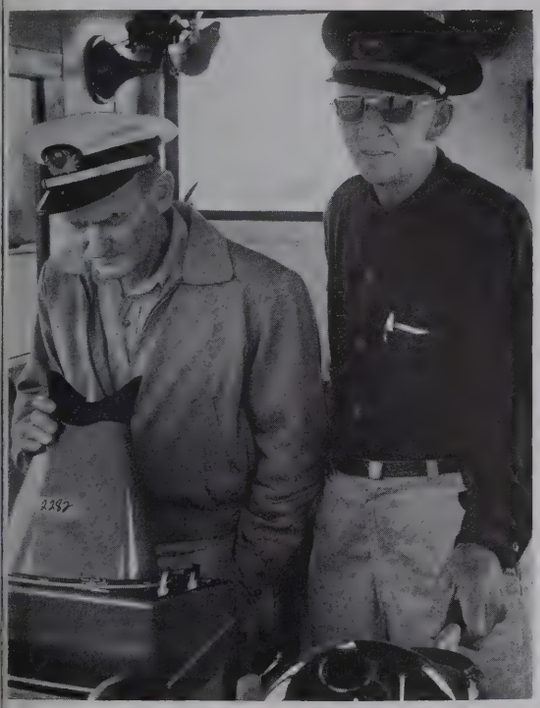
The E. H. THORNTON JR., latest addition to the Department's expanding marine facilities, was added to the two other ferries presently running between Galveston and Port Bolivar. As a toll-free service to motorists, the E. H. THORNTON JR. and her sisterships, the CONE JOHNSON and R. S. STERLING, ply the five miles of open water between the terminals of S. H. 6 and 87 on the Gulf-washed Texas coast below Galveston.

The opening of the Harris County section of I. H. 10 will permit the continuous passage of traffic from the Houston-Baytown area to Anahuac and on to the Beaumont-Port Arthur area. The new four-lane, divided, eight-mile section of highway was built at a cost of nearly $2.5 million and includes five highway grade separations.

The 185-foot-long E. H. THORNTON JR. rests in a slip on the day of her christening. Built at a cost of $917,000, the new ferry will carry as many as 52 automobiles on each trip between Galveston and Port Bolivar at an average speed of 12 knots.

As the ferry makes her maiden voyage, the passing scenery is enjoyed by Highway Commissioner Herbert C. Petry, Jr.; State Highway Engineer D. C. Greer; Commission Chairman Marshall Formby; the vessel's namesake, former Commissioner and Chairman E. H. Thornton Jr.; and Commissioner C. F. Hawn.

Mr. and Mrs. Thornton see the new ferry into official service as their 13-year-old daughter, Andrea, breaks a bottle of Gulf water over the vessel's bow.



Inside the pilot house of the E. H. THORNTON JR., Walter Lind (left) and A. M. Ryan, Masters and Pilots, use an advanced radar system and helm controls to assure the vessel's safe passage between Galveston and Port Bolivar.

Jerry Schultz (left) and Johnny Kreuzer, Marine Engineers, man the main switchboard controls below decks.

District Engineer W. E. Simmons, District 20; the Texas Highway Commission; and District Engineer W. E. Carmichael, District 21, officially put I. H. 10 into operation opening up an important new link in the southeast Texas network of highways.

Committees Meet In Waco

Two meetings which will influence the size, shape, and location of future Texas highways were held at the Waco District Headquarters January 15 and 16.

The first meeting was a joint session of the Texas Highway Department and the Texas Municipal League Committee On Median Practices On City Streets. The group's discussion centered on the problem of median design along those city streets which also serve as highway routes.

The formation of several subcommittees resulted from these talks. Research topics were assigned on a variety of subjects including safety and capacity of streets of varying median designs, the effect of medians on roadside businesses, and development of a policy on spacing of openings in medians. One subcommittee will compile and disseminate to news media information gathered in Texas and other states on the median-design question.

The Department's new Design Policies and Standards Committee held its organizational meeting the following day to begin development of standards for controlled-access highway systems. Four subcommittees were created to formulate standards of basic design criteria, geometric design, structural design of the roadbed, and miscellaneous facilities. The four subcommittees will meet again this month during the Short Course at Texas A&M College.

Seated clockwise around the table, members of the new Design Policies and Standards Committee are R. A. Bossy, District Engineer, District 2, Fort Worth; Robert O. Lytton, District 15, San Antonio; Charles W. Smith, District 4, Amarillo; William C. Lovil, District 19, Atlanta; W. E. Carmichael, District Engineer, District 12, Houston; Thomas C. Collier, District Engineer, District 9, Waco; T. S. Huff, Chief Engineer of Highway Design, Austin; F. M. Davis, District Engineer, District 15, San Antonio; A. C. Kyser, Urban Project Engineer-Manager, District 12, Houston; and Frank W. Cawthon, District Engineer, District 18, Dallas.

Members of the Committee on Median Practices on City Streets appearing clockwise around the table are Frank Frey, Urban Engineer, Texas Highway Department; Charles J. Keese, Texas Transportation Institute; Albert W. Rollins, City Engineer, Arlington; Charles Pinnell, Texas Transportation Institute; Edward L. Smith, District 9, Waco; Robert O. Lytton, District 15, San Antonio; James H. Aiken, District 9, Waco; Charles W. Smith, District 4, Amarillo; William C. Lovil, District 19, Atlanta; W. E. Carmichael, District Engineer, District 12, Houston; Virgil J. McGee, District 4, Amarillo; Jose Correa, District 12, Houston; Drahn Jones, Director of Public Works, Corpus Christi; Thomas C. Collier, District Engineer, District 9, Waco; F. M. Davis, District Engineer, District 15, San Antonio; George Dieter, City Engineer, Waco; James F. Snyder, District Engineer, District 21, Pharr; and Eugene Maier, Director, Department of Traffic and Transportation, Houston.

OVER THE HIGHWAYS

Comments . . . from the Traveling Public

I would like to compliment your maintenance men you have at Seymour who were kind enough to turn in some articles they found near where I had an accident December 30. . . .

Cody C. Custer
Lubbock, Texas

. . . I want to make a suggestion that I have thought about for years. There are signs along the highways stating it is illegal to throw trash on the highways. This is fine. And I have known of persons that have dumped trash along highways, and their address being found among such trash. They have had to clean it up.

Now, there are tens of thousands of beer cans and whiskey bottles with the maker's name and address on them. Now this is a shame and disgrace on any state and I know costs the state thousands of dollars to clean up. My remedy for this is to get a law passed that would make the distillery pay one cent a piece for every can and bottle with their name on it which is picked up on public highways. Children would be glad to do the work for us and make enough money to go to college by doing it.

Two years ago I saw two highway trucks with about four men each picking up trash on a highway in the Lake Whitney area. I stopped and talked to them a little and most of the two truck loads of trash was beer cans.

Just had this on my mind and thought I would tell someone that might be able to get something started.

R. E. Baker
Weatherford, Texas

. . . we disliked high-priced gasoline *near* oil wells.

H. E. Kennard, M.D.
Newton Center, Massachusetts

We wish to take this occasion to express our deep appreciation to you and your Highway Department for the use of your signs and other equipment . . . on our float for the second grade November 11, 1958. The float was designed to portray the progress of the highway systems in Menard. Your equipment and signs made it possible for us to make a fine showing. . . . We are enclosing some photographs so you will be able to get some idea of how our float looked, and why we were so proud of it.

Dick Smith
Menard, Texas

◆ *W. E. Macek, Senior Maintenance Foreman, District 7, received this letter after loaning several highway signs to the Menard School P.T.A.*

To and From Our Readers

I am attaching our address to receive copies of your very fine publication TEXAS HIGHWAYS. . . . Again, I wish to compliment you for your very outstanding publication. . . .

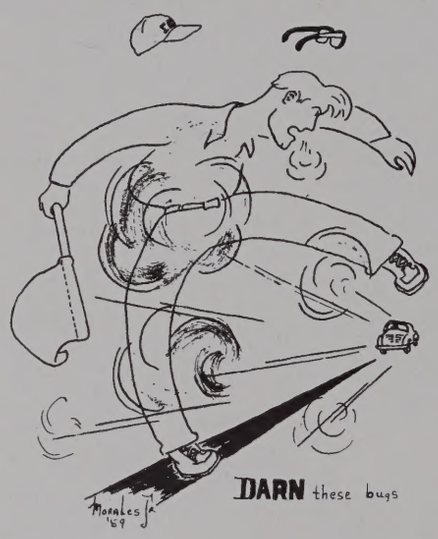
Charles M. Ogle
Assistant Executive Director
Texas Motor Transportation Association
Austin, Texas

In Fort Stockton the other day, I watched a lad in the Resident Engineer's Office sketching on a note pad. I asked him to do it off on plain paper and ink it.

To me it depicts, all too many times, the attitude of motorist and employee alike—on the humorous side.

Would be happy to have you use it. . . . The boy's name is Frank Morales Jr.

Steve Heacock
Marfa, Texas



"Mr. Lednicky just dropped out, couldn't you ladies come back some other time?"

About the Cover . . .

Carving graceful double tracks as it wends its way through blackland North Texas, U. S. 75 speeds traffic to and from McKinney and the center of downtown Dallas. Stretching northward from Dallas for 28 comfortable expressway miles, the new highway was built at a cost exceeding $19.4 million, exclusive of right-of-way.

Inside the front cover . . . native giant daggers jut abruptly into a West Texas afternoon. These rugged desert plants, placed by District 24 personnel, beautify the right of way along U. S. 80 between Kent and Van Horn in Culberson County.

TEXAS HIGHWAY COMMISSION

MARSHALL FORMBY	**Chairman**
HERBERT C. PETRY JR.	**Member**
CHARLES F. HAWN	**Member**
D. C. GREER	**State Highway Engineer**

Texas Highways

TEXAS HIGHWAYS, official journal of the Texas Highway Department, is published in the interest of highway development in Texas and for departmental education in the improvement of construction, maintenance, and operation.

TEXAS HIGHWAYS is available to the general public on a subscription basis at $3.50 annually, or it can be purchased for 35 cents a copy. Subscriptions, inquiries, material, or manuscripts should be directed to the Editorial Office, Division of Information and Statistics, Texas Highway Department, Austin 14, Texas.

HIGHWAY SIDELIGHTS

Gordon K. Shearer, Director of Research
Texas State Parks Board

Padre Island, proposed for a national park in a bill by U.S. Senator Ralph Yarborough, can be visited by driving over causeways connecting with roads at Corpus Christi and Port Isabel.

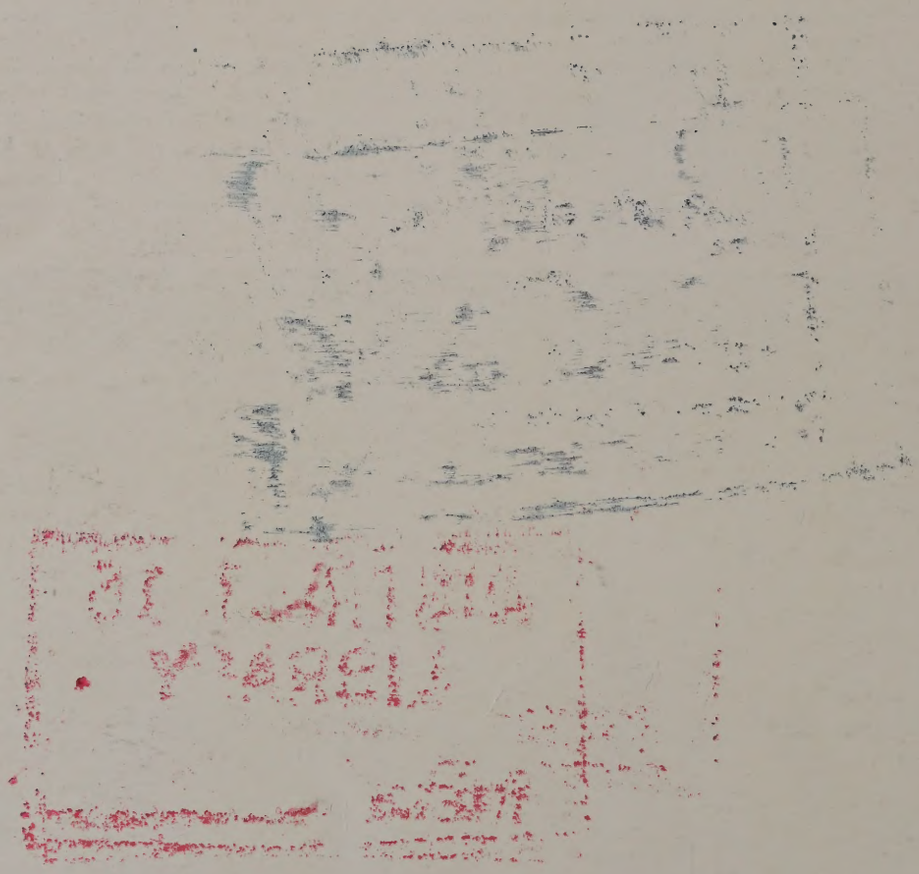
This photograph from the air by the National Park Service shows rental cottages, a restaurant, bathhouse, and parking facilities in Cameron County Park on the Island at the end of the park road running to Queen Isabella Causeway.

The Corpus Christi Causeway connects with the north end of Padre Island where Nueces County has a park. Both causeways are toll bridges across Laguna Madre. The Queen Isabella Causeway is at the end of S. H. 100.

Padre Island is a barrier-reef island, 117 miles long. It varies in width from an eighth of a mile to two miles. Its approximate area is 100,000 acres.

Excluding the Nueces and Cameron County parks at the ends of the island, the length is 98 miles. This is the longest stretch of undeveloped seashore remaining in the United States.

The narrow island parallels the Texas mainland. Its beach is classed excellent, its bird life outstanding, its sport fishing in the surf and offshore excellent, and its historical values important.

Such cold grading of potentialities expands in a report of a Seashore Recreation Survey of the National Park Service, which enthusiastically announces that "the 98-mile stretch of undeveloped beach on Padre Island presents an opportunity for beach recreation of a type unmatched by any other area on the Atlantic or Gulf Coasts."

It is envisioned, too, as a part of a "Blue Water Highway," a scenic road down the Texas coastal islands. Three causeways, one bridge, and 79 miles of road are completed projects that can be utilized in making such a dream highway a reality.